

Update on the Bay TMDL and What's Just Around the Corner

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Today's Discussion

- Status of EPA on developing the TMDL
- Status of states/DC on developing their Watershed Implementation Plans (WIPs)
- How do the 2-yr milestones fit into the TMDL/WIP process?
 - Don't need to tear apart the TMDL/WIPs...but understand the connections
- Contents of WIPs
- EPA Backstop Actions
- Little bit about N/P allocation development process
- Monitoring/Modeling

A Quarter Century of Management Application of the Bay WQ Model...

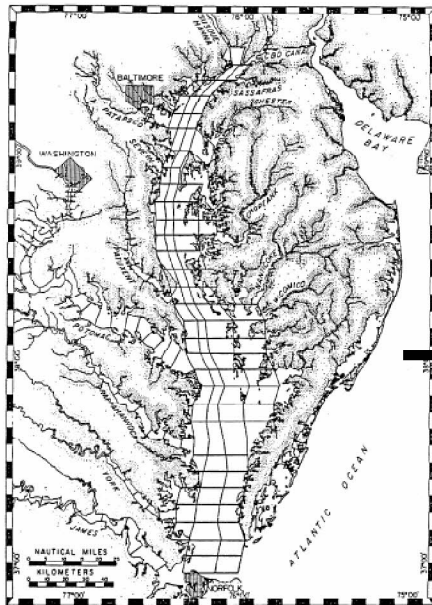


FIGURE 5-1. THE MODEL DOMAIN AND MODEL SEGMENTATION

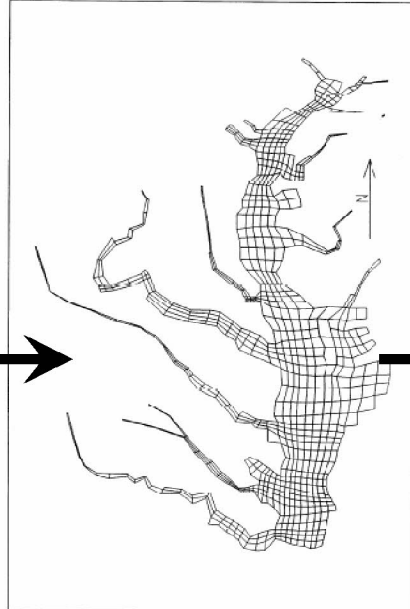
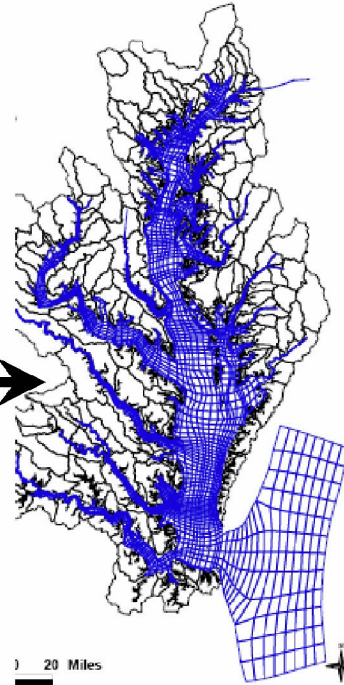


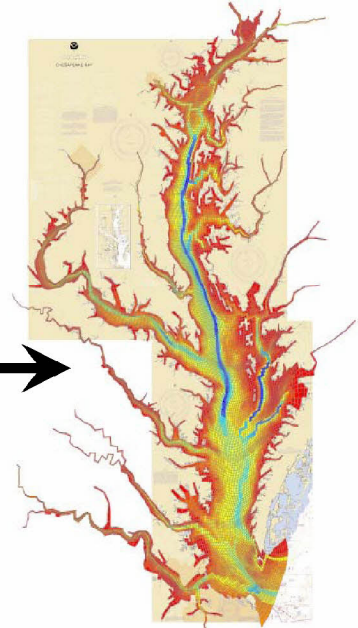
Figure 3-1. Plan View of Computational Grid

Chapter II Hydrodynamic Model and Computational Grid

3-3



20 Miles



- Completed in 1987
- 2-years
- 584 model cells
- July-Sept steady state

- Completed in 1992
- 4-years
- 5,000 model cells
- Sediment flux

- Completed in 1998
- 10-years
- 12,000 model cells
- SAV, benthos

- Completed in 2010
- 20-years
- 57,000 model cells
- Sediment transport, oysters, menhaden

...A Quarter Century of Bay Agreements and Implementation Actions

1983 Chesapeake Bay Agreement

1987 Chesapeake Bay Agreement

- 40% of controllable N and P reductions
- 1991 Reevaluation

1992 Amendments to the Bay Agreement

- Allocation of N, P reductions to major trib basins
- First generation of tributary strategies
- 1997 Reevaluation

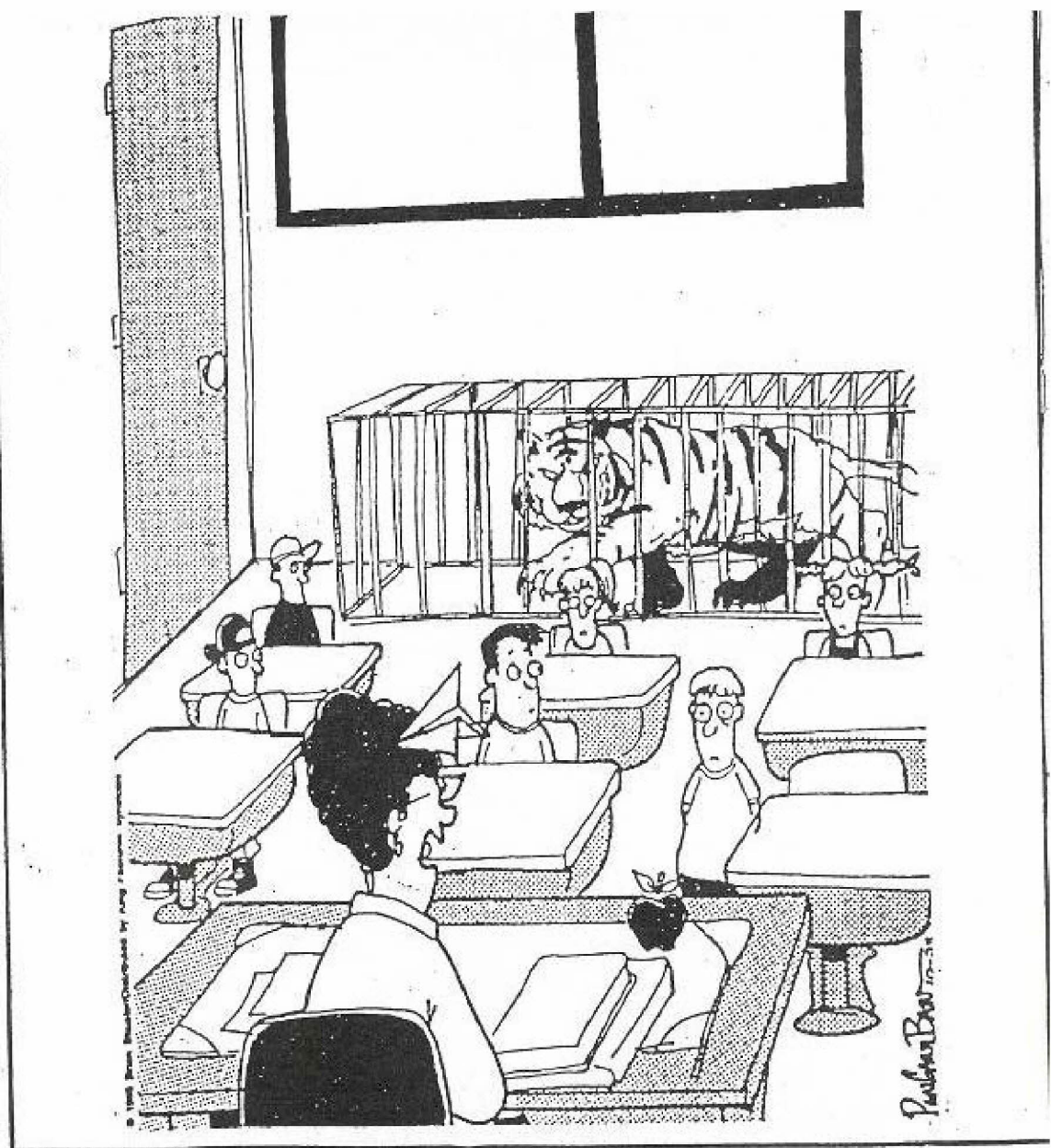
2000 Chesapeake Bay Agreement

- Adoption of 175 TN and 12.8 TP loading caps
- Publication of Bay WQ criteria
- MD, VA, DE, DC adoption of Bay WQ Standards
- Second generation of tributary strategies
- Initiation of work on Bay TMDL
- Presidential Executive Order

Sending Clear Signals...

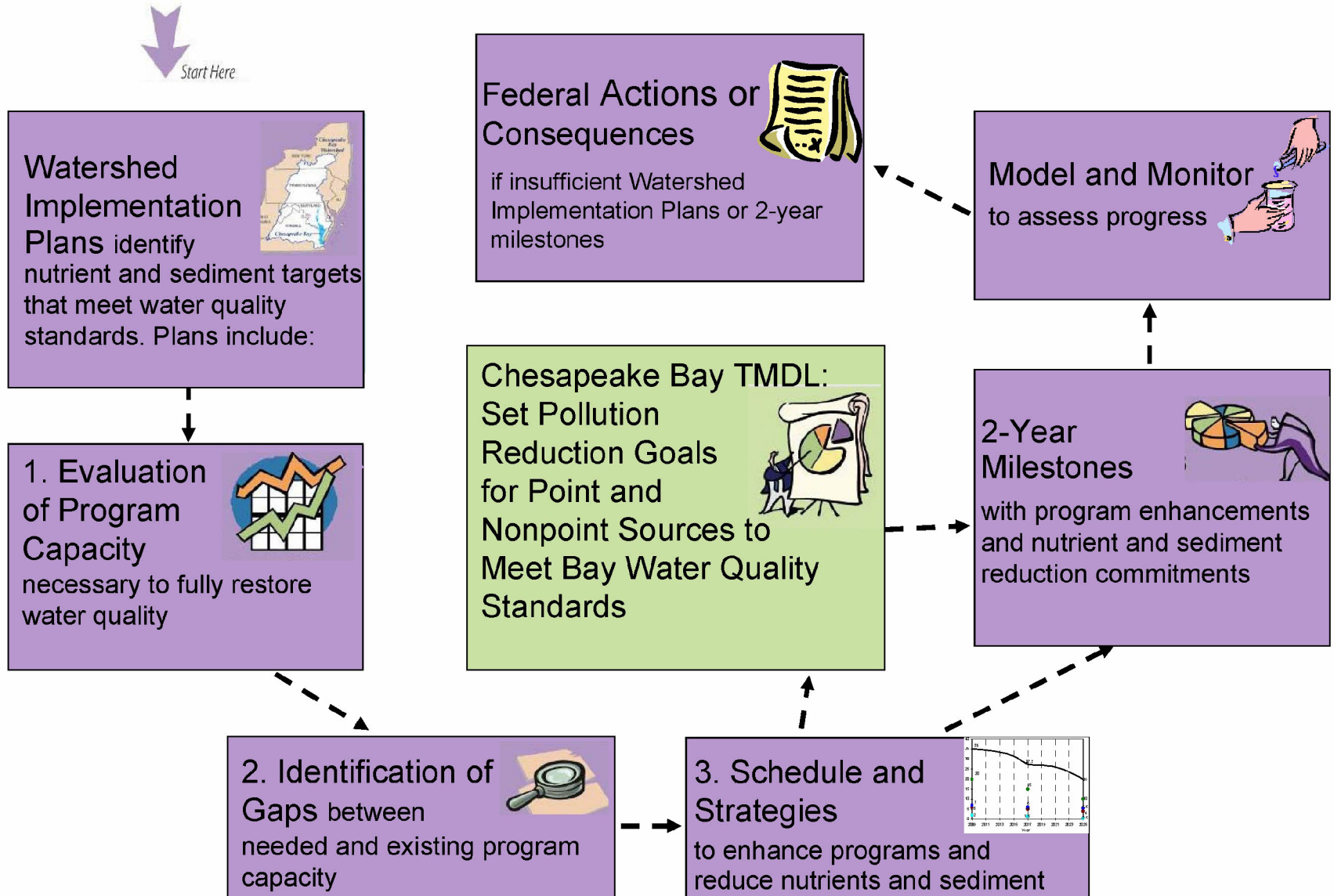
- May 2008: VA Gov outlines 2-yr milestone approach
- Sept 2008: EPA sets new accountability framework
- May 2009: EC adopts first set of two-year milestones
- Nov 2009: EPA sets clear WIP expectations
- Dec 2009: EPA lays out federal backstop actions
- Apr 2010: EPA shares WIP review guidelines
- June 2010: EPA describes adaptive Bay TMDL schedule
- July 2010: EPA shares nutrient target loads
- Aug 2010: EPA shares sediment target loads
- Sept 2010: Jurisdictions submit Phase I WIPs

**It's a new day
for restoring
local streams,
rivers and the
Chesapeake
Bay**



**"Well, Timmy, it looks like you've just earned yourself
10 minutes in the cage with Mr. Whiskers."**

Promoting Accountability and Performance



Bay TMDL and WIP Schedule: 2009-2017

Oct 2009

Major basin jurisdiction loading targets



November- December 2009

Bay TMDL Public Meetings

Phase 1 Watershed Implementation Plans: November 2009 – Sept.1 2010

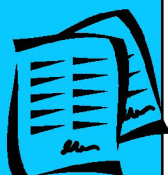
Local Program Capacity/Gap Evaluation

Chesapeake Bay Watershed Nitrogen Load Allocations											
Bay Segment	Year	Location	Upstream Municipal Load (t/day)	Downstream Municipal Load (t/day)	Watershed NRE Load (t/day)	Chesapeake Bay Load (t/day)	Chesapeake Bay Load (t/day)	Chesapeake Bay Load (t/day)	Chesapeake Bay Load (t/day)	Chesapeake Bay Load (t/day)	Chesapeake Bay Load (t/day)
Patuxent	2012	Patuxent	1,000	0	0	1,000	0	0	0	0	0
Patuxent	2013	Patuxent	500	0	0	500	0	0	0	0	0
Patuxent	2014	Patuxent	500	0	0	500	0	0	0	0	0
Patuxent	2015	Patuxent	500	0	0	500	0	0	0	0	0
Patuxent	2016	Patuxent	500	0	0	500	0	0	0	0	0
Patuxent	2017	Patuxent	500	0	0	500	0	0	0	0	0

July 1 and August 15 Allocations

**Sept. 24,
2010**

(45 days)

Public
Review
And
Comment

▶ **Nov 29, 2010**

Final WIPs

December 2010

Final TMDL Established



Phase 2 Watershed Implementation Plans: Jun/Nov 2011

Divide Target Loads among Watersheds, Counties, Sources



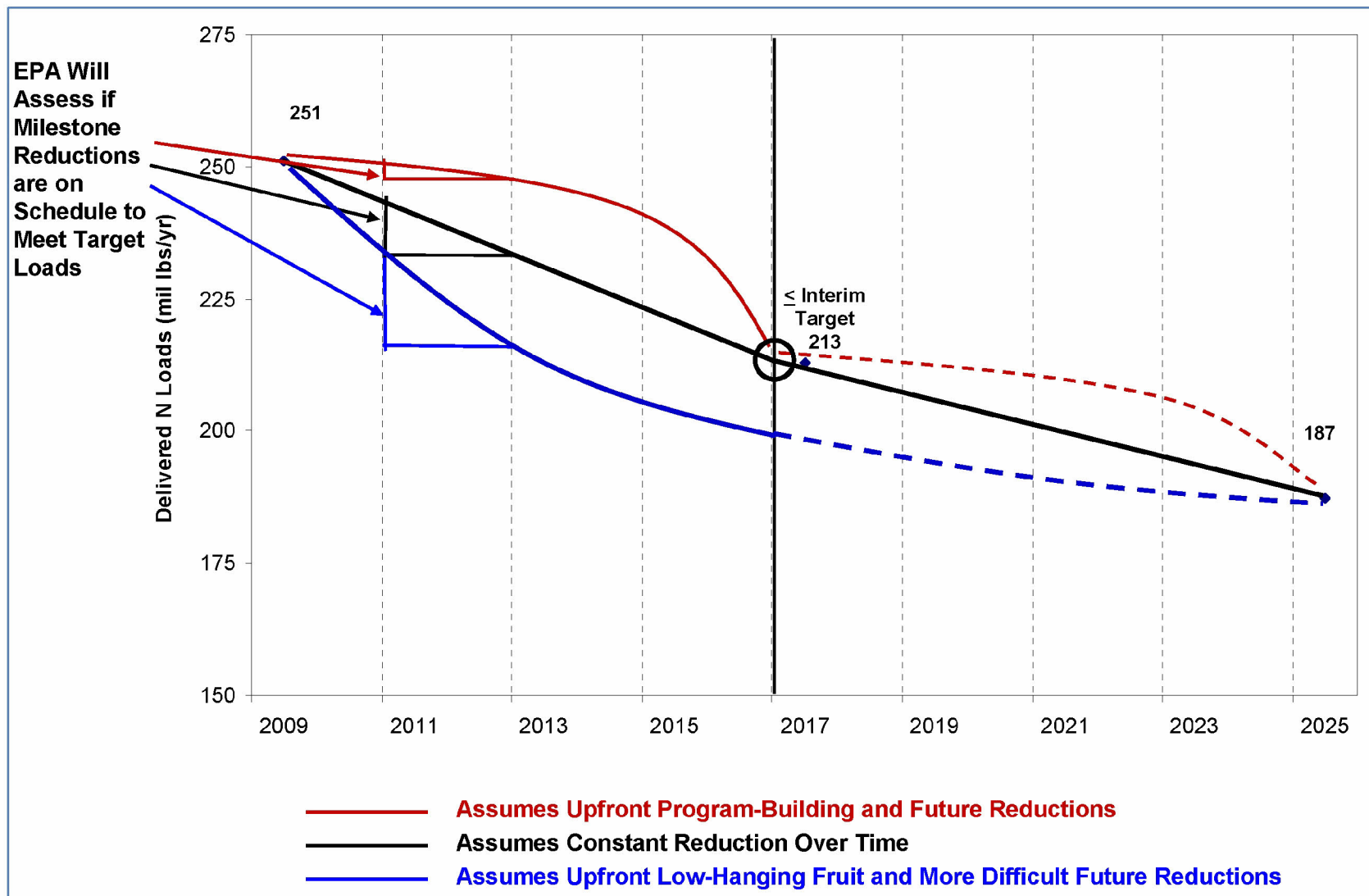
Starting 2011

**2-year
milestones,
reporting,
modeling,
monitoring**

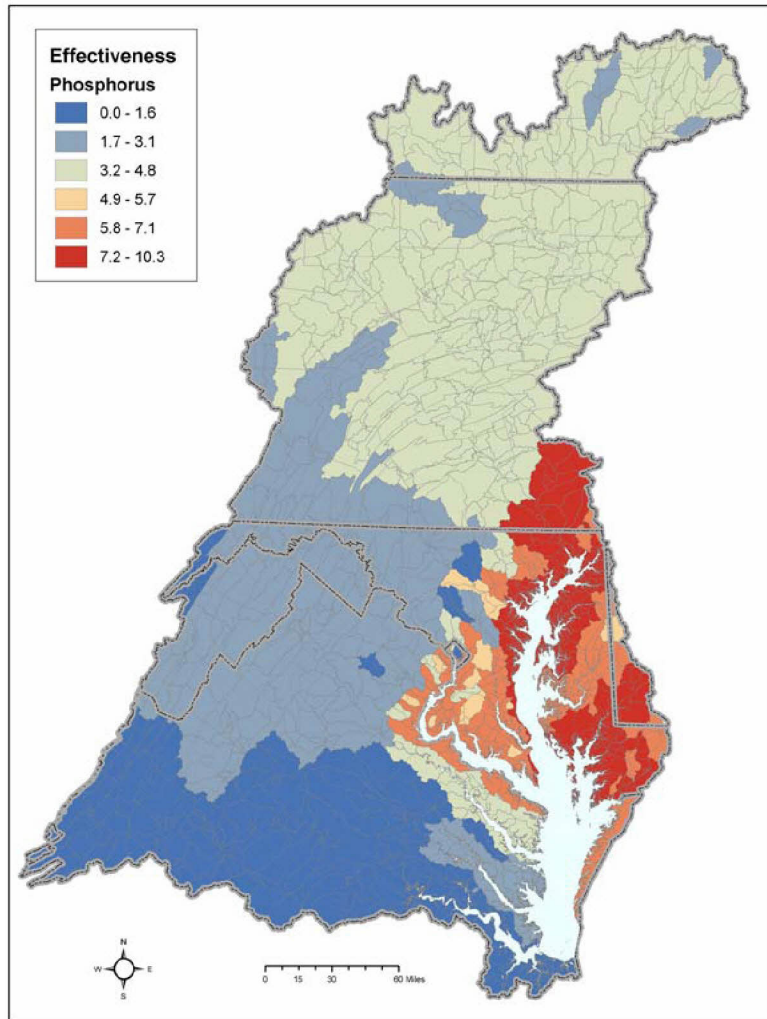
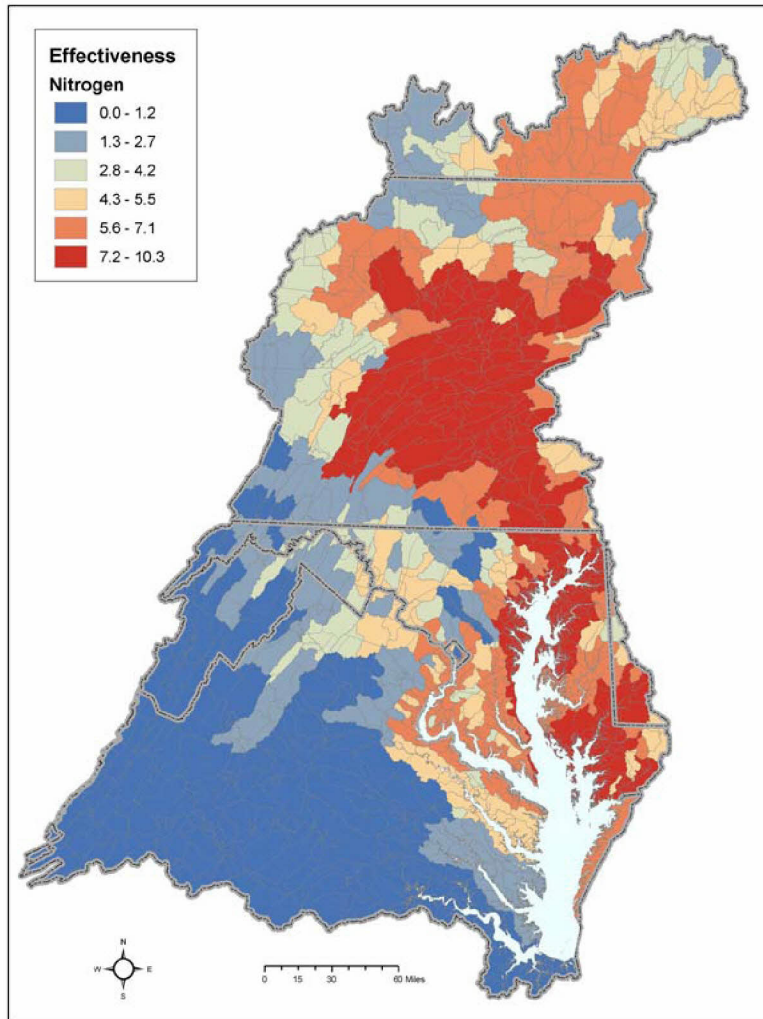


2017 Reevaluation/Phase III WIPs

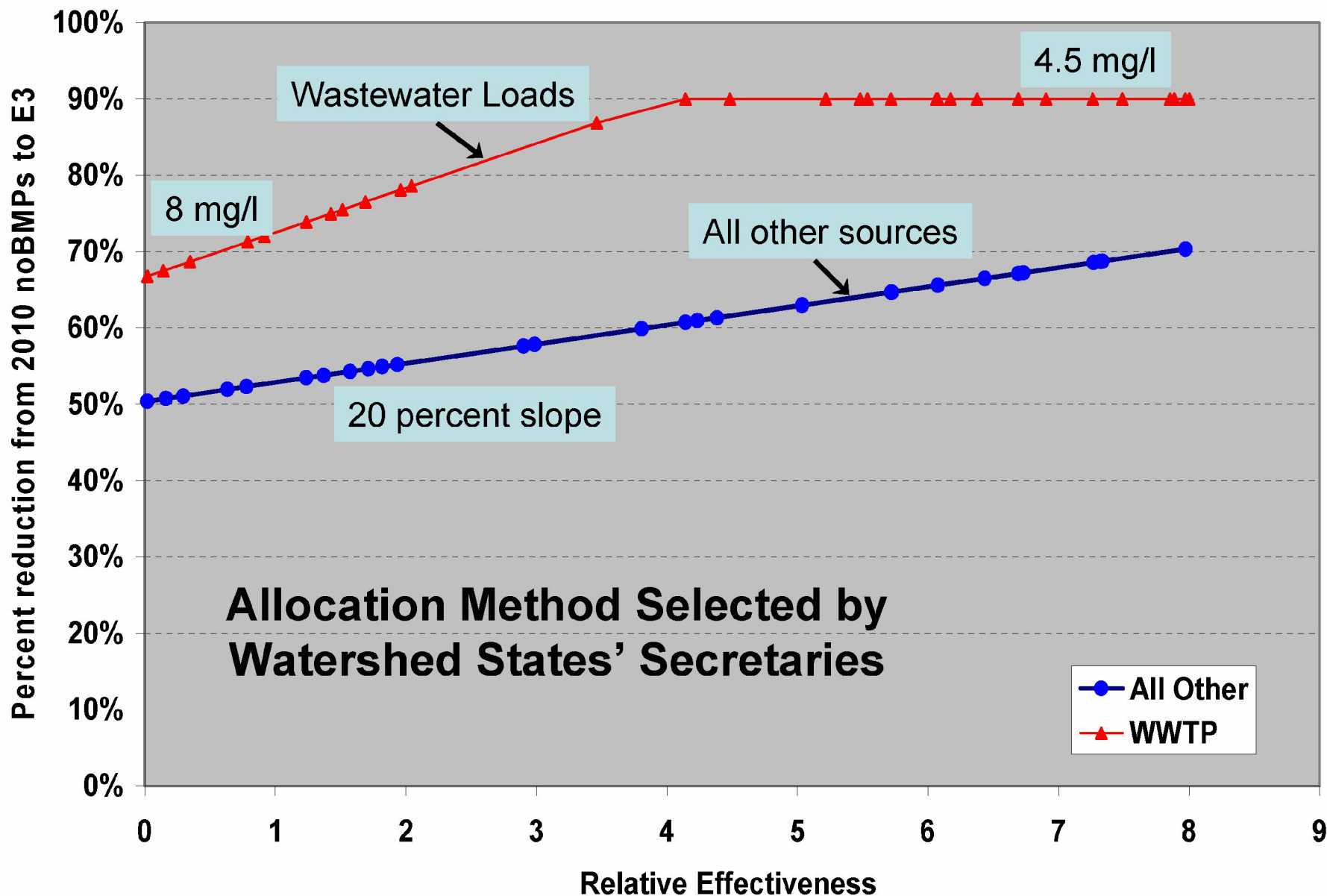
Two-Year Milestones: Waypoints on the Path to 2017 and 2025



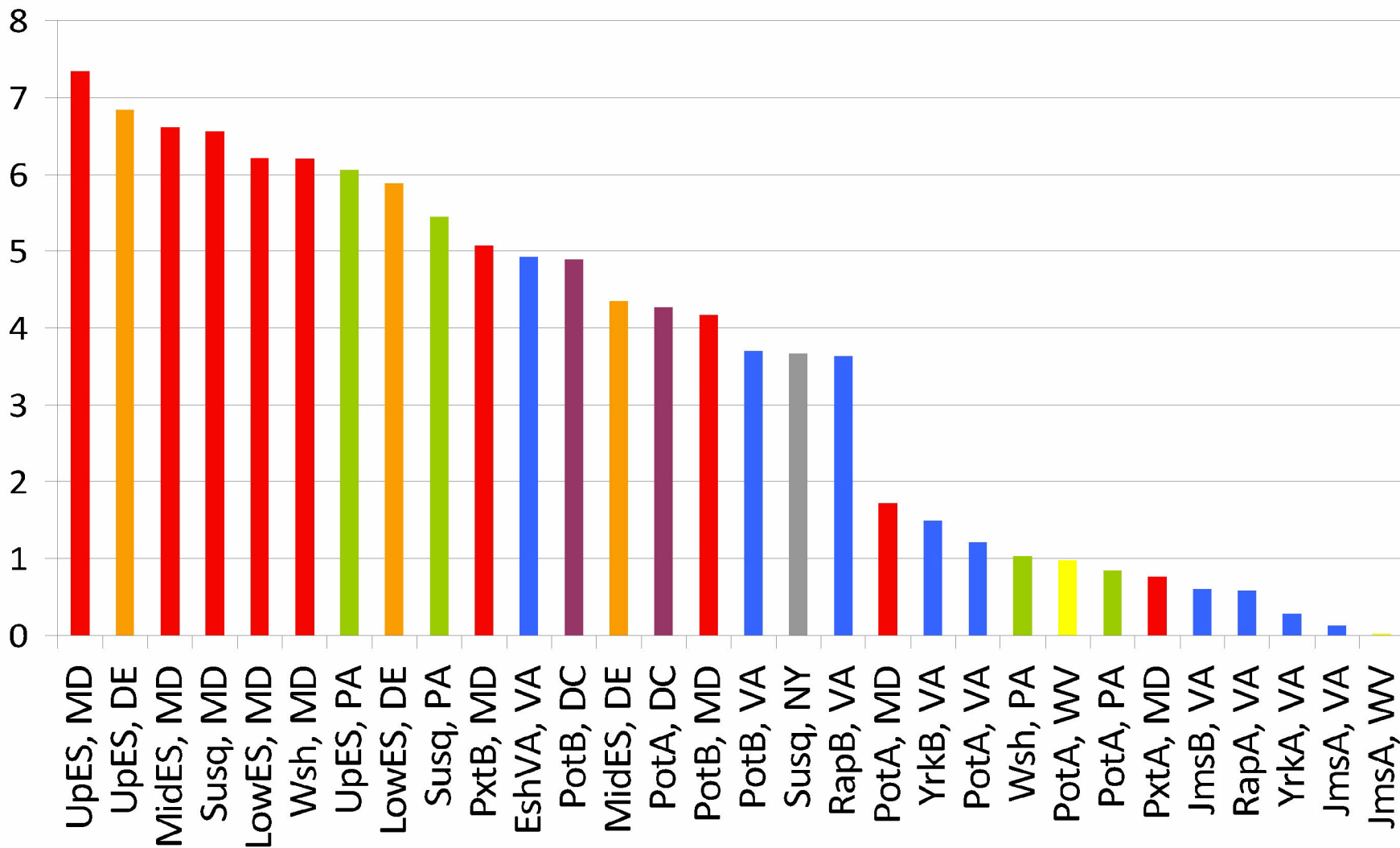
Allocations Based on Relative Effect of a Pound of Pollution on Bay WQ



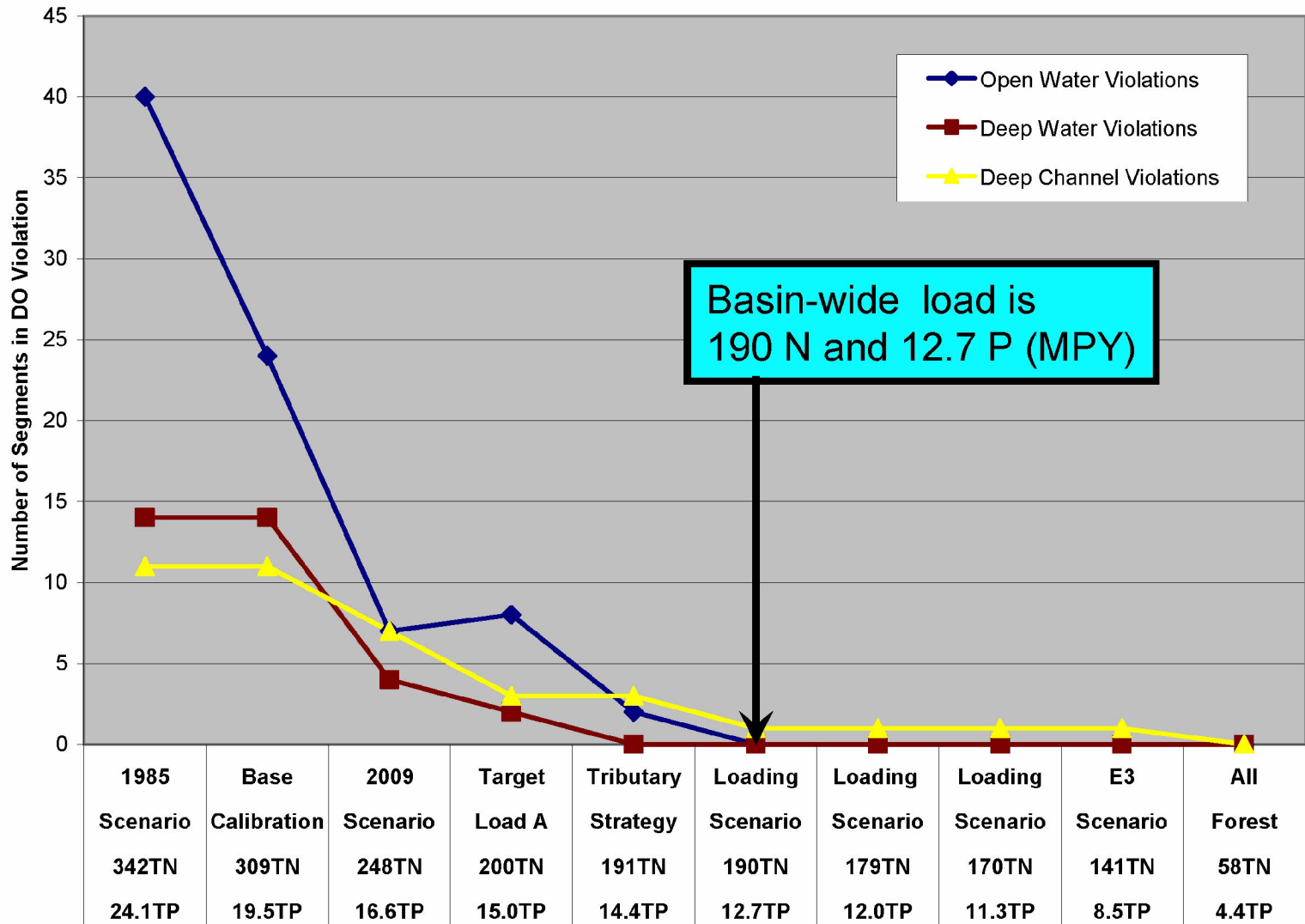
Equitable Allocation Nutrient Loads Based on Relative Effective



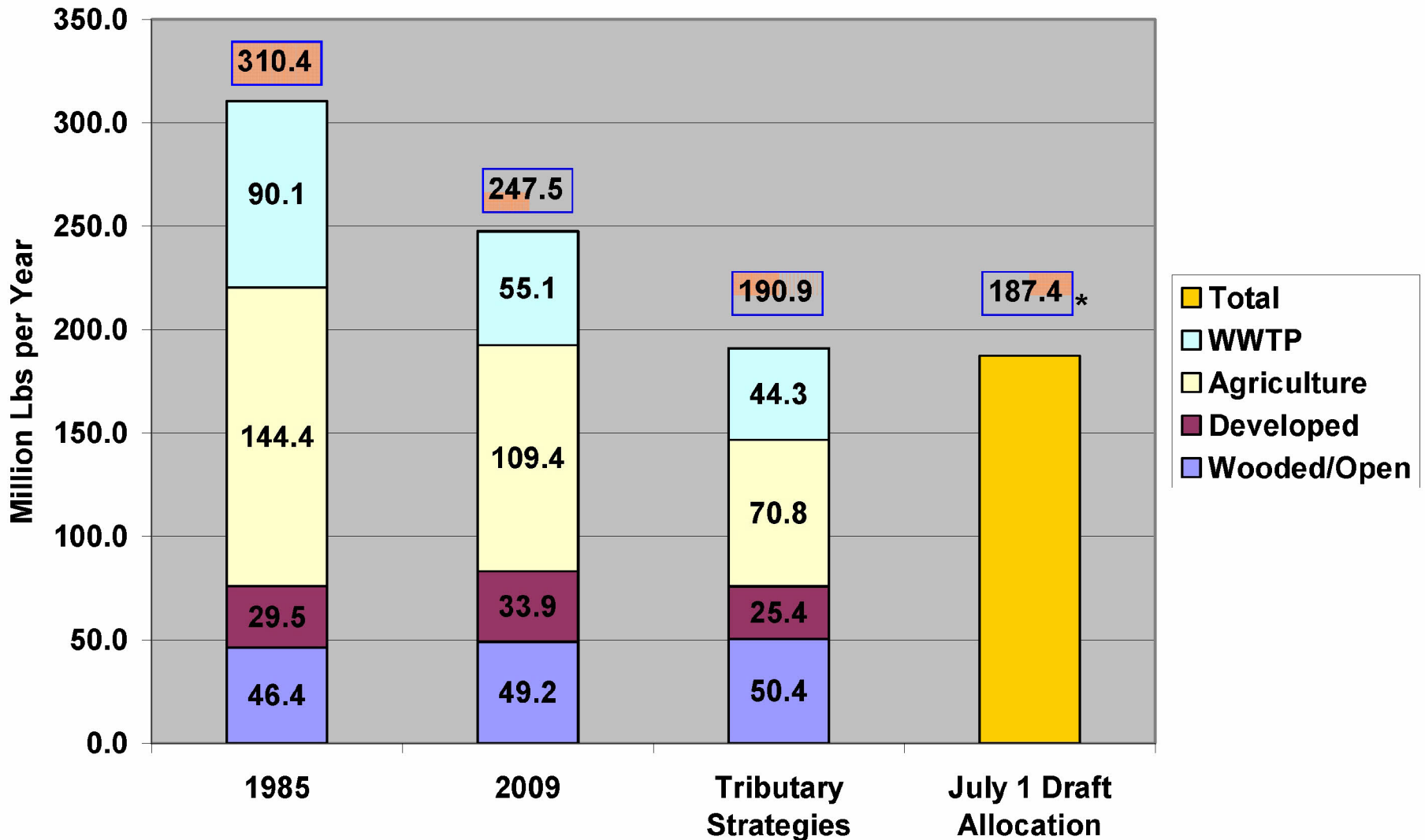
Relative effectiveness (Riverine * Estuarine Delivery)



Dissolved Oxygen Criteria Attainment

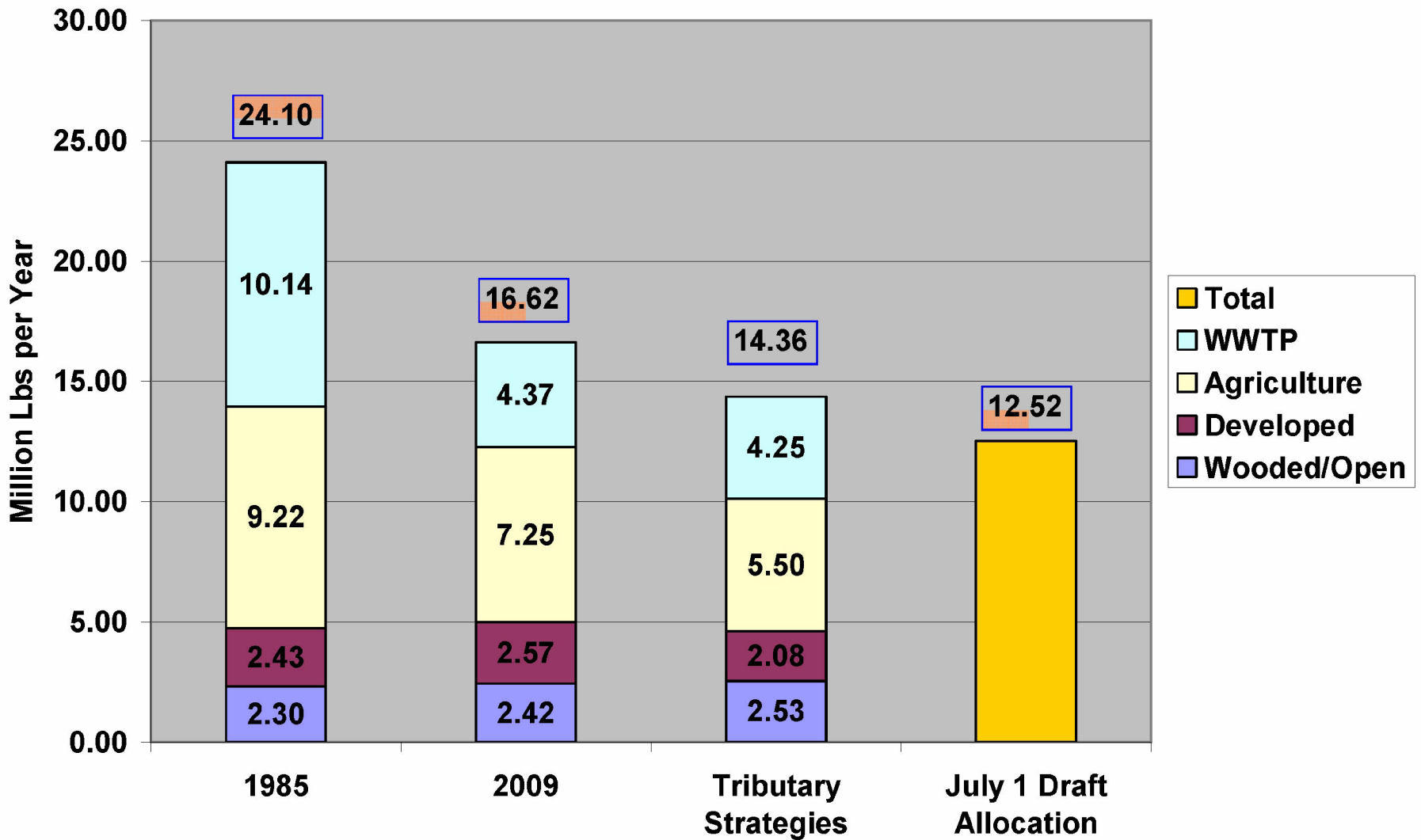


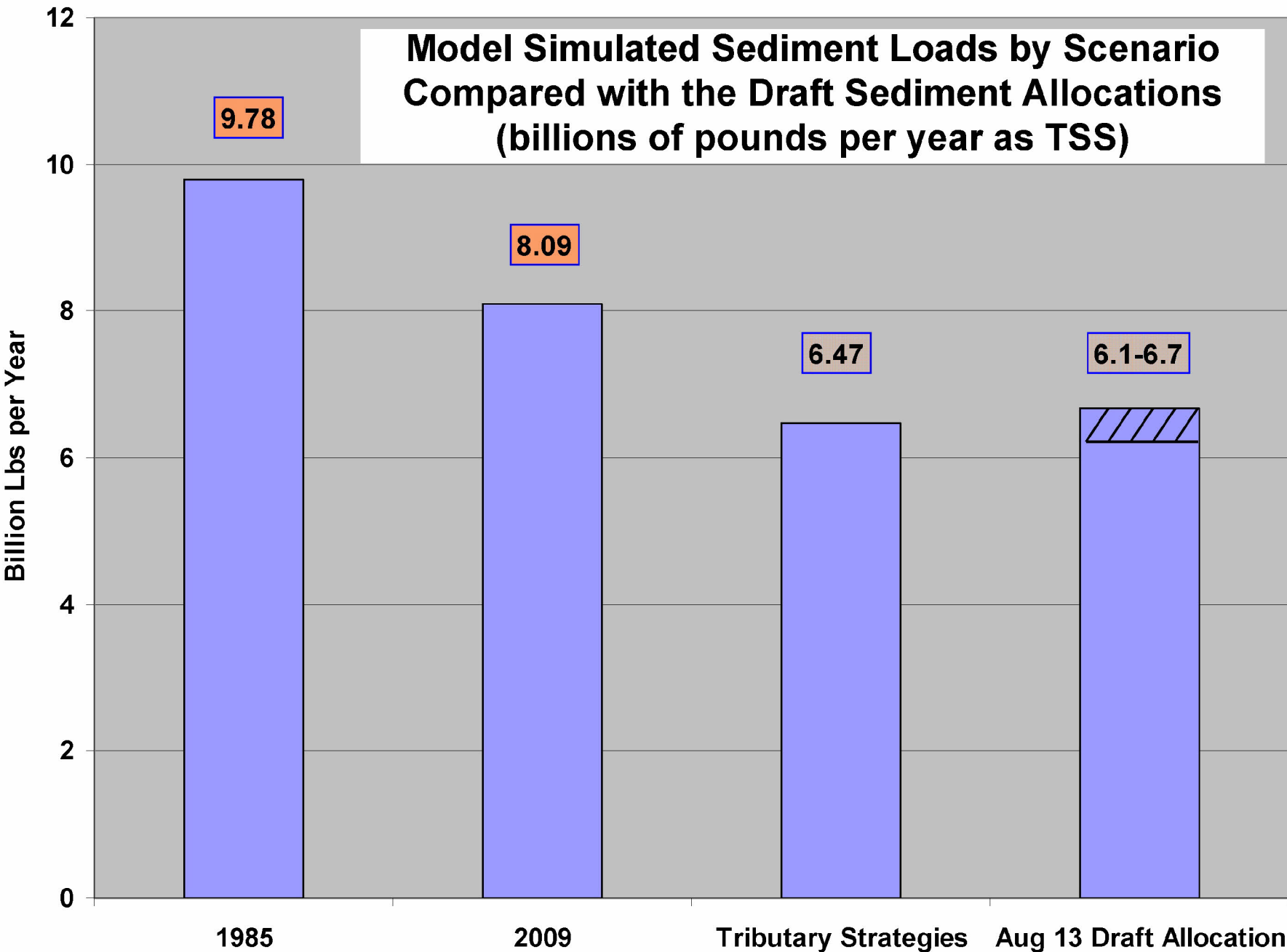
Nitrogen Loads by Sector and Scenario - CBP Watershed Model p5.3



* Note: This is land based allocated load. Air allocation is an additional 15.7 mpy N

Phosphorus Loads by Sector and Scenario - CBP Watershed Model p5.3





8 Watershed Implementation Plan Elements

- Nutrient and Sediment Target Loads
- Current Program Capacity
- Mechanisms to Account for Growth
- Gap Analysis
- Commitment to Fill Gaps: Policies, Rules, Dates for Key Actions
- Tracking and Reporting Protocols
- Contingencies for Delayed or Incomplete Implementation
- Detailed Appendix for Bay TMDL, 2-Year Milestones



"You dropped the ball. You must have known there would be consequences."

Federal Backstop Actions Include...

- **Expand NPDES permit coverage to unregulated sources**
- **Increase permit oversight/object to permits**
- **Require net improvement offsets**
- **Establish finer scale allocations**
- **Require additional reductions from regulated point sources (e.g., wastewater treatment plants)**
- **Increased federal enforcement**
- **Condition or redirect federal grants**
- **Promulgation of local nutrient standards**

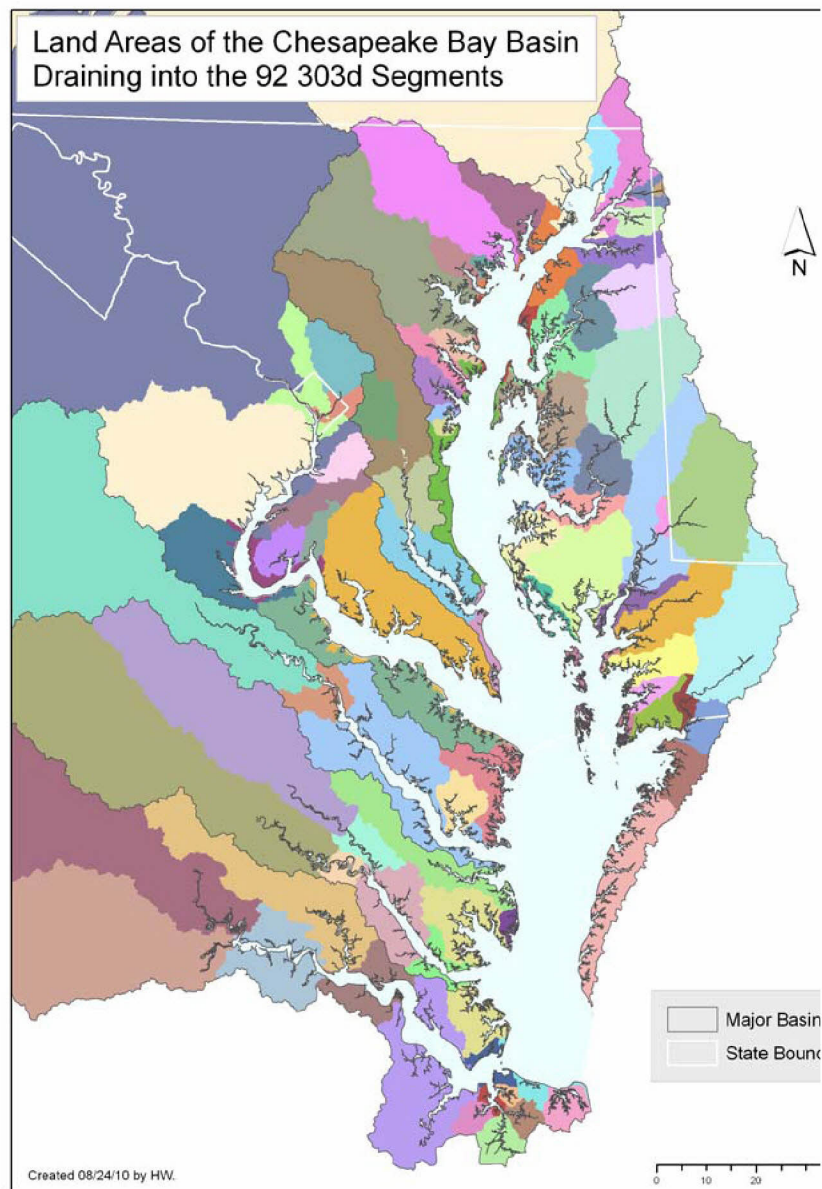
Step 1 – December 2010

- **In 2010**
 - **Sept. 1** – Draft Phase I Watershed Implementation Plans submitted to EPA
 - **Sept. 24 - Nov. 8** – Draft Bay TMDL offered for public comment
 - **Nov. 29** – Final Phase I Watershed Implementation Plans
 - **Dec. 31** – EPA establishes Bay TMDL

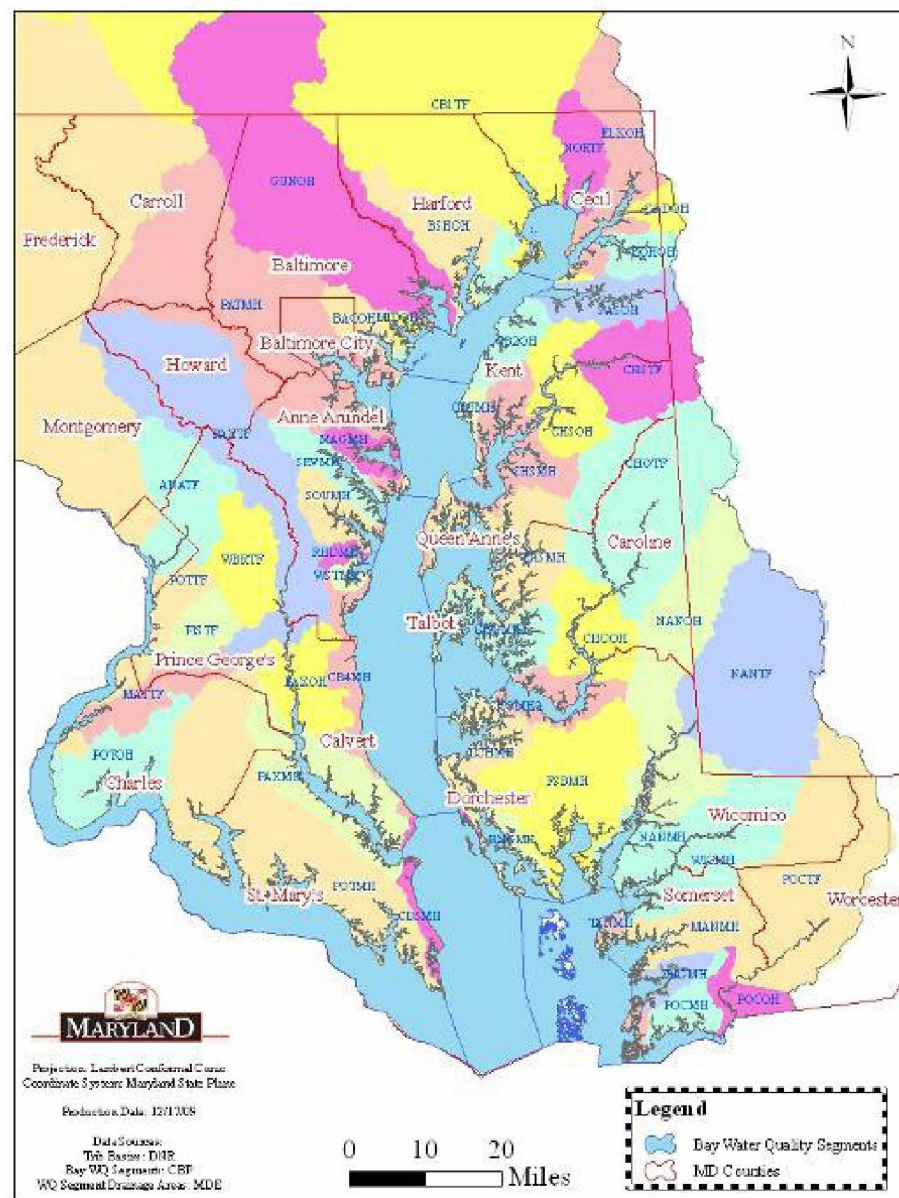
Step 2 – 2011

- In 2011
 - EPA revises Phase 5.3 watershed model
 - Nutrient management effectiveness; suburban land characteristics
 - Removes or reduces temporary reserve
 - Draft Phase II Watershed Implementation Plans by June 1; final by Nov. 1
 - Modify point and non-point source load allocations as needed
 - Finer scale of planned actions
 - Proposed state modifications to Bay TMDL
 - Subject to 30-day public comment period
 - Submit to EPA for approval
 - EPA modifies Bay TMDL, if necessary

Phase I: 92 Bay Segments



Phase II: Counties



Step 3 – 2017

- **Prior to 2017**

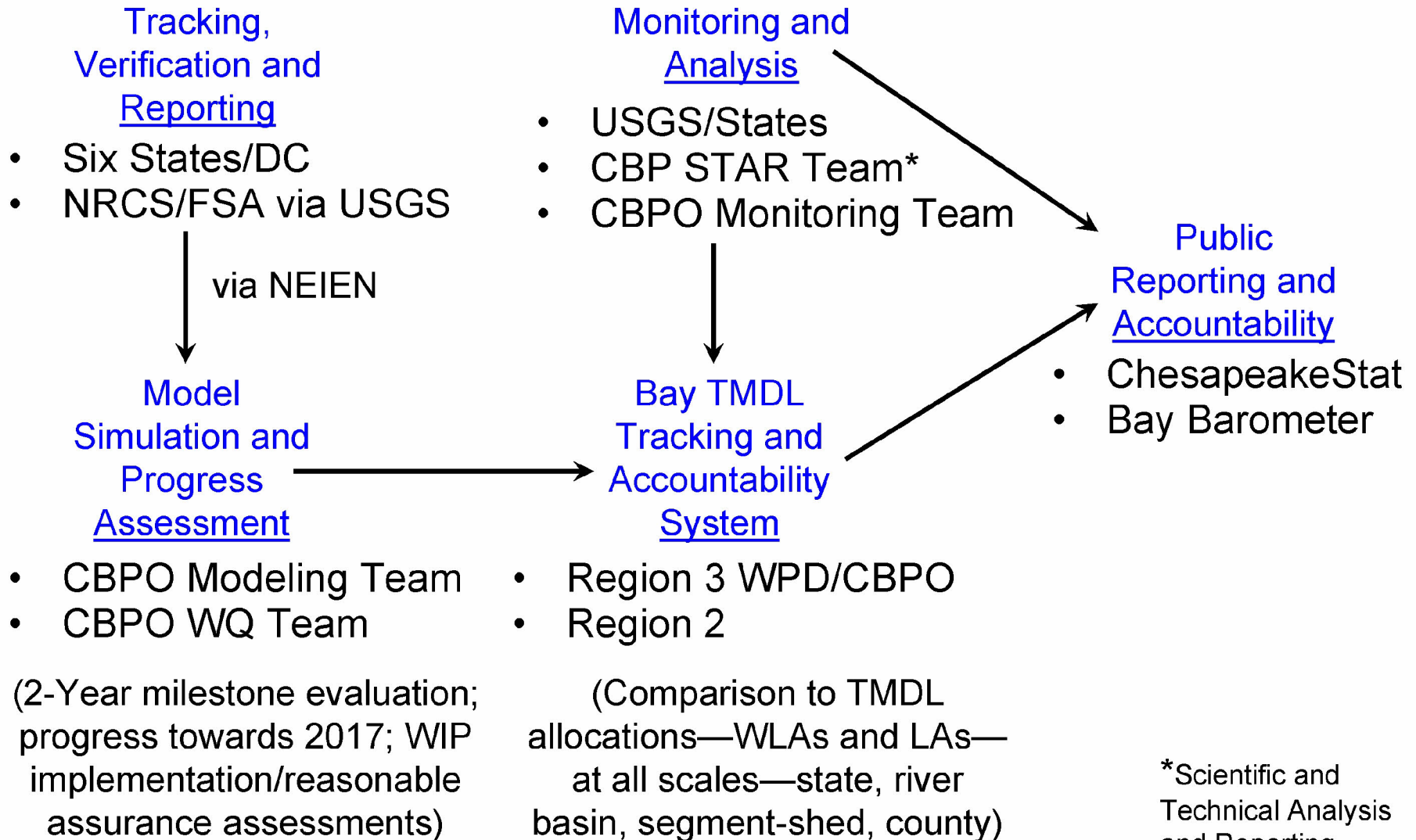
- EPA reviews full suite of Bay models and considers whether updates are needed

- **In 2017**

- Phase III Watershed Implementation Plans
 - Ensuring practices in place by 2025 for restoration of the Bay and its tidal waters
- EPA modifies Bay TMDL, if necessary

Monitoring/Modeling Progress

"Who is responsible for monitoring/modeling load reductions to make sure that the practices are implemented result in the expected load reduction?"



*Scientific and Technical Analysis and Reporting



Questions & Comments

